

Amendment Under 37 C.F.R. § 1.111  
Serial No.: 10/502,402  
SUGHRUE MION, PLLC Ref: Q82699

### **REMARKS**

Claims 1 and 2 are all the claims pending in the application. By way of this Amendment, Applicants have amended claim 1 and added new claim 3. For the following reasons, it is submitted that the application is in condition for allowance.

#### ***I. Status of the Application***

The present Office Action is a Non-Final Office Action subsequent to the filing of the Request For Continued Examination (RCE) and Amendment Under 37 C.F.R. § 1.114 filed June 14, 2006.

In the Non-Final Office Action, it is noted with appreciation that the Examiner has withdrawn the previous objection to the specification, the 35 U.S.C. § 112, second paragraph, rejection of claim 2, and the rejection of claims 1 and 2 under 35 U.S.C. § 102(b) based on Roder et al. (U.S. Patent No. 3,169,757). However, the Examiner maintains the rejection of claims 1-2 under 35 U.S.C. § 102(b) as being anticipated by Clarke et al. (U.S. Patent No. 3,141,660, hereinafter "Clarke"). For the following reasons, Applicants respectfully traverse this rejection.

By way of review, in the previous Amendment, Applicants presented arguments essentially directed to the presence of a gap between the ribs 12 of Clarke's plastic or rubber moulding 11 and the convolutions of the coil spring 10. The arguments further presented graphs showing the different load-deflection and spring constant-deflection characteristics of the claimed coil spring and coupler and the moulding of Clarke.

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In the Office Action, the Examiner contends that these arguments were not persuasive. In particular, the Examiner alleges that “Clarke et al. discloses a situation in which the coupler can be fixedly bonded to the peripheral surface of adjacent coils.” See Office Action at page 3.

Applicants submit that the Examiner has not properly characterized the disclosure of Clarke, as there is no suggestion that the ribs of the moulding are in any manner “bonded” to the adjacent coils. Rather, Figure 1 appears to directly contradict the Examiner’s statement, as gaps are clearly depicted between each surface of the ribs and the peripheral surface of the respective coils. Moreover, Clarke’s teaching of “progressive tapering” of the width of the rib further contradicts any suggestion that Clarke intended the ribs to be fixed to the coil springs.

Nonetheless, Applicants have amended claim 1 to clarify the relationship of the coupler to the convolutions of the coil spring by expressly reciting the feature of there being no gaps between the coupler and the terminal and subsequent convolutions. The following recitation has been added to claim 1:

*“...wherein said coupler is fixedly held between the terminal convolution and the subsequent convolution of the coil element rod of the coil spring in an uncompressed state of the coil spring without a gap between the outer peripheral surface of the terminal convolution and a first surface of the coupler and without a gap between the outer peripheral surface of the subsequent convolution and a second surface of the coupler.”*

Clarke fails to suggest the claimed arrangement of the coupler being fixedly held between the terminal convolution and the subsequent convolution, as claimed, because Clarke clearly depicts gaps between the ribs of the moulding and the convolutions of the spring in Figure 1, as noted above.

Further, Applicants reiterate the arguments presented, for example, at page 8 of the previous Amendment. Applicants again point out that the disclosure of Clarke teaches that a gap is provided between the ribs and the convolutions of the spring in an uncompressed state and the ribs being loosely fitted such that the coils are free to move between the ribs when the spring is not compressed.

In addition, Applicants have added new claim 3, which depends from claim 1 and further recites the feature of the first surface and second surface of the coupler are fixedly held in contact with the outer peripheral surface of the terminal convolution and the outer peripheral surface of the subsequent convolution, respectively, by an adhesive.

Applicants note that the Examiner contends that Figures R1 and R2, as presented in the previous Amendment, “do not appear to properly represent the instant invention.” *See* Office Action at page 3. Apparently, the Examiner finds the Figures R1 and R2 to be inconsistent with Figures 5a and 5b of Applicant’s specification. To clarify, the coil spring of the present invention does not eliminate the initial deflection of the coil spring entirely. Rather, the coil spring decreases the amount of the initial deflection so that it is smaller than a conventional closed-end type coil spring. Therefore, a slight amount of the initial deflection remains in the present invention’s coil spring, as described at page 4, lines 26-29 to page 5, lines 1-5. However, this initial deflection is relatively small in comparison with a conventional spring. The amount of initial deflection shown in instant Figures 5A and 5B and in Figures 4A and 4B have been drawn in an exaggerated manner to assist in describing the invention. The important point is that the amount of initial deflection of the present invention of the coil spring of the present invention

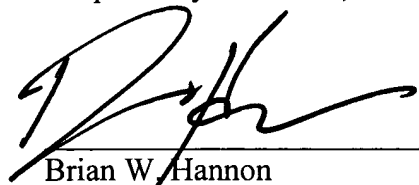
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is much smaller than the corresponding initial deflection of a conventional coil spring of the closed-end type (*See page 5, lines 1-5*). Please compare the difference of the initial deflection between the graph of Figures 4A and 4B and the graph of Figures 5A and 5B.

In view of the foregoing, it is respectfully submitted that all claims pending in the application are allowable. It is therefore respectfully requested that the application be passed to issue at the earliest convenience. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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